

Appl. No. 10/030,153
Amendment dated: May 10, 2004
Reply to OA of: February 12, 2004

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1(currently amended). A biofuel cell comprising cathodic and anodic compartments defined in the interior of the biofuel cell wherein each compartment contains a conductive medium ~~and contained with conductive medium, respectively;~~ an anode arranged in the anodic compartment; a cathode arranged in the cathodic compartment; and an ion exchange membrane interposed between the cathodic and anodic compartments and serving to divide the anodic compartment from the cathodic compartment, wherein the anodic compartment contains wastewater and active sludge and is maintained in an anaerobic condition during [[an]] operation of the biofuel cell.

2(original). The biofuel cell of claim 1, in which the active sludge and the wastewater are selected from the group consisting of a starch wastewater, a livestock wastewater, a wastewater from a septic tank, and a combination thereof.

3(currently amended). The biofuel cell of claim 1, in which the anodic compartment contains the sludge and the wastewater is starch wastewater.

4(original). A method of treating wastewater while producing electric power using the biofuel cell of claim 1, comprising of:

introducing the wastewater and the active sludge into the anodic compartment of the biofuel cell;

introducing nitrogen into the anodic compartment to remove dissolved oxygen from the anodic compartment, such that the anodic compartment is maintained in an anaerobic condition,

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continuously introducing air into the cathodic compartment, such that the cathodic compartment is maintained in a condition where it is saturated with oxygen, and

densely culturing electrochemically active microorganisms present in the wastewater and the active sludge,

whereby the cultured active bacteria are used as a microorganism catalyst, and organic substances present in the wastewater are used as a fuel.